

# U.S. Department of Commerce Patent and Trademark Office

INFORMATION DISCLOSURE CITATION

(Use several sheets if necessary)

Atty. Docket No. 51320-AB/JPW/AJD/BWSL 09/852,238
Applicant(s)

G. P. Allaway et al.

Filing Date May 9, 2001

Art Unit 1648

#### U.S. PATENT DOCUMENTS

| Examiner<br>Initials | Exh.<br>No. |                                      | Do                                   | eu n | ient | Numi | ber |   | Date     | Name           | Class | Subclass | Filing Date If Appropriate |
|----------------------|-------------|--------------------------------------|--------------------------------------|------|------|------|-----|---|----------|----------------|-------|----------|----------------------------|
| BUG                  | ĺ           | 6                                    | 1                                    | 0    | 7    | 0    | 1   | 9 | 08/22/00 | Allaway et al. | -     |          |                            |
| BUC                  | 2           | 6                                    | 3                                    | 4    | 4    | 5    | 4   | 5 | 02/05/02 | Allaway et al. |       |          |                            |
| 13000                | 3           | 6                                    | 5                                    | 4    | 8    | 6    | 3   | 6 | 04/15/03 | Dragic et al.  |       |          |                            |
| BUC;                 | 4           |                                      | Pending Claims in 0 9 / 8 8 8, 9 3 8 |      |      |      |     |   |          | Allaway et al. |       | <u>.</u> | 06/25/01                   |
| BUC                  | 5           | Allowed Claims in 1 0 / 3 2 3, 3 1 4 |                                      |      |      |      |     |   |          | Dragic et al.  |       |          | 12/19/02                   |
| BUC                  | 6           | 08                                   | 6                                    | 2    | 7    | 6    | 8   | 4 |          | Allaway et al. |       |          | 04/02/96                   |
| BUCC                 |             | 60                                   | 0                                    | 1    | 4    | 5    | 3   | 2 |          | Allaway et al. |       |          | 04/02/96                   |
| HIC.                 | 7           | 08                                   | 6                                    | 6    | 3    | 6    | 1   | 6 |          | Allaway et al. |       |          | 06/14/96                   |
| BUCH                 |             | 60                                   | 0                                    | 1    | 9    | 7    | 1   | 5 |          | Allaway et al. |       |          | 06/14/96                   |
| BUCC                 | 8           | 08                                   | 6                                    | 7    | 3    | 6    | 8   | 2 |          | Allaway et al. |       |          | 06/25/96                   |
| 800                  | 9           | 08                                   | 6                                    | 6    | 5    | 0    | 9   | 0 |          | Allaway et al. |       |          | 06/14/96                   |

### FOREIGN PATENT DOCUMENTS

|      |    |    | Do | ume      | nt N | Ju mi | 202 |   | Date      | C       | C)    | 0.1.1    | Trans | lation   |
|------|----|----|----|----------|------|-------|-----|---|-----------|---------|-------|----------|-------|----------|
|      |    |    | Du | . u 1111 |      |       | Jei |   | Date      | Country | Class | Subclass | Yes   | No       |
| Baci | 26 | 9  | 6  | 4        | 1    | 0     | 2   | 0 | 10/27/97  | PCT     |       |          |       |          |
| 1    | 27 | 9  | 7  | 2        | 6    | 0     | 0   | 9 | 07/24/97  | PCT     |       | *****    |       |          |
| . 1  | 28 | 9  | 7  | 3        | 7    | 0     | 0   | 5 | 10/27/97  | PCT     |       |          |       |          |
|      | 29 | 9  | 8  | 5        | 6    | 4     | 2   | 1 | 12/17/98  | PCT     |       |          |       |          |
|      | 30 | 0  | 0  | 3        | 5    | 4     | 0   | 9 | 06/2/2/00 | PCT     |       |          |       |          |
|      | 31 | 0  | 1  | 6        | 4    | 7     | 1   | 0 | 09/07/01  | PCT     | -     |          |       |          |
|      | 32 | .0 | 2  | 2        | 2    | 0     | 7   | 7 | 03/21/02  | PCT     |       |          |       | <u> </u> |
| A    | 33 | 02 | 0  | 6        | 8    | 6     | 0   | 8 | 09/06/02  | PCT     |       |          |       | <b></b>  |

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

**EXAMINER** 

Bugunh

DATE CONSIDERED

<sup>\*</sup>EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609: Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



# U.S. Department of Commerce Patent and Trademark Office

INFORMATION DISCLOSURE CITATION (Use several sheets if necessary)

Atty. Docket No. Serial No. 51320-AB/JPW/AJD/BWSL 09/852,238

Applicant(s)

G. P. Allaway et al.

| Filing Date | Art Unit |
|-------------|----------|
|             | 1648     |

# **U.S. PATENT DOCUMENTS**

| Examiner<br>Initials | Exh.<br>No. |                                      | Doc         | ume                         | nt N        | u ml | ber   |   | Date     | Name           | Class | Subclass | Filing Date If Appropriate |
|----------------------|-------------|--------------------------------------|-------------|-----------------------------|-------------|------|-------|---|----------|----------------|-------|----------|----------------------------|
| BLei                 |             | 60                                   | 0           | 1                           | 9           | 9    | 4     | 1 |          | Allaway et al. | -     |          | 06/14/96                   |
| BUCC                 | 10          | 08                                   | 8           | 7                           | 4           | 5    | 7     | 0 |          | Allaway et al. |       |          | 06/13/97                   |
| BUCA                 | 11          | 08                                   | 8           | 7                           | 4           | 6    | 1     | 8 |          | Allaway et al. |       |          | 06/13/97                   |
| BUC                  | 12          | ]                                    | Pend<br>0 9 |                             | Cla<br>2 4, |      |       |   |          | Allaway et al. |       |          | 11/28/00                   |
| BUC                  |             | 09                                   | 2           | 1                           | 2           | 7    | 9     | 3 |          | Olson et al.   |       |          | 12/16/98                   |
| Bien                 |             | 60                                   | 1           | 1                           | 2           | 5    | 3     | 2 | _        | Olson et al.   |       |          | 12/16/98                   |
| BUC.                 | 13          | 09                                   | 4           | 6                           | 4           | 9    | 0     | 2 |          | Olson et al.   |       |          | 12/16/99                   |
| BUI                  | 14          | 09                                   | 5           | 9                           | 4           | 9    | 8     | 3 |          | Olson et al.   |       |          | 06/15/00                   |
| BUC                  | 15          | 09                                   | 6           | 6                           | 3           | 2    | 1     | 9 |          | Olson et al.   |       |          | 09/15/00                   |
| BCC                  | 16          | 60                                   | 2           | 6                           | 6           | 7    | 3     | 8 |          | Olson et al.   |       |          | 02/06/01                   |
| BU                   | 17          | 2 (                                  | 0 0         | $\overline{2}/\overline{0}$ | 14          | 64   | 1 1 5 | 5 | 10/10/02 | Olson et al.   |       |          | ,                          |
| B W(-                | 18          | 60                                   | 2           | 8                           | .2          | 3    | 8     | 0 |          | Olson et al.   |       |          | 04/06/01                   |
| Bili                 | 19          | 2 (                                  | 0 0 2       | 2/0                         | 10          | 63   | 374   | 1 | 08/08/02 | Olson et al.   |       |          |                            |
| BUCL                 | 20          | 10                                   | 0           | 8                           | 1           | 1    | 2     | 8 |          | Olson et al.   |       |          | 02/22/02                   |
| BUC                  |             | 60                                   | 3           | 5                           | 8           | 8    | 8     | 6 |          | Olson et al.   |       |          | 02/22/02                   |
| BCCC                 | 21          | 2 (                                  | 0 0 3       | 3 / 0                       | 0 4         | 4 4  | 1 1   |   | 03/06/03 | Olson et al.   |       |          |                            |
| BOG.                 | 22          | 2 (                                  | 0 0 :       | 3 / 0                       | 09          | 26   | 3 2   |   | 05/15/03 | Dragic et al.  |       |          |                            |
| BU                   | 23          | 2 (                                  | 003         | 3/0                         | 2 2         | 8 3  | 0 6   | , | 12/11/03 | Olson et al.   |       |          |                            |
| BUC                  | 24          | Pending Claims in 1 0 / 7 6 3, 5 4 5 |             |                             |             |      |       |   |          | Olson et al.   |       |          | 01/23/04                   |
| BUL                  | 25          |                                      | end<br>09   |                             |             |      |       |   |          | Allaway et al. |       |          | 12/13/99                   |
|                      | I           |                                      | T           | 7                           | 7           |      |       |   |          |                |       |          |                            |

# FOREIGN PATENT DOCUMENTS

|       |    |    | Doc |      | me N       | ·  |     |   | Date     | Country | Class | Subalasa | Translation   |             |  |
|-------|----|----|-----|------|------------|----|-----|---|----------|---------|-------|----------|---------------|-------------|--|
|       | İ  |    | DUC | u me | 11 1 1 1 T | um | ier |   | Date     | Country | Class | Subclass | Yes           | No          |  |
| BCC   | 34 | 02 | 0   | 8    | 3          | 1  | 7   | 2 | 10/24/02 | PCT     | 1     |          |               |             |  |
| 13(0) | 35 | 03 | 0   | 7    | 2          | 7  | 6   | 6 | 09/04/03 | PCT     |       |          | <del></del> - | <del></del> |  |
|       |    |    |     |      |            |    |     |   |          |         |       |          |               |             |  |

**EXAMINER** 

DATE CONSIDERED 09/05/JOUY

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609: Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Sheet 1 of 6 Form PTO-1449 Serial No. Atty. Docket No. U.S. Department of Commerce 51320-AB/JPW/SHS 09/852,238 Patent and Trademark Office Applicants Graham P. Allaway et al. FORMATION DISCLOSURE CITATION (Use several sheets if necessary) Filing Date Group May 9, 2001 U.S. PATENT DOCUMENTS Examiner **Document Number** Date Name Class Subclass Filing Date Initial if Appropriate BULL US 5 8/5/94 Chuntharapai, et al BOL 5 US 5 0 4 0 0 3 4/2/96 H. Li et al. BOCI US 9 6/4/91 Murrer et al. US 6/30/92 Maddon, et al. FOREIGN PATENT DOCUMENTS **Document Number** Date Country Class Subclass Translation Yes No & OG woo 12/18/97 OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) Alkhatib, Ghalb, et al., (1996) "CC CKR5: A RANTES, MIP-1α, MIP-1β Receptor as a BOL Fusion Cofactor for Macrophage-Tropic HIV-1" Science 272:1955-1958; Arenzana-Selsdedos, Fernando, et al., (1996) "HIV blocked by chemokine antagonist" Nature 383:400; Bleul, Conrad, C., et al., (1996) "The lymphocyte chemoattractant SDF-1 is a ligand for LESTR/fusion and blocks HIV-1 entry" Nature 382:829-832; Blob Brenner, T.J., et al. (1991) "Relation between HIV-1 syncytium inhibition antibodies and clinical outcome in children" The Lancet 337:1001-1005; Choe, Hyeryun, et al., (1996) "The β-Chemokine Receptors CCR3 and CCR5 Facilitate Infection by Primary HIV-1 Isolates" Cell 85:1135-1148; Cocchi, Florenza, et al., (1995) "Identification Of RANTES, MIP-1α, and MIP-1β as the Major HIV-Suppressive Factors Produced by CD8<sup>+</sup> T Cells" Science 270: 1811-1815; De Clercq, et al.,(1994) "Highly potent and selective inhibition of human immunodeficiency BOL virus by the bicyclam derivative JM3100" Antimicrobial Agents and Chemotherapy 38(4):668-674: De Clercq, E., (1995) "Antiviral therapy for human immunodeficiency virus infections" Clinical Microbiology Reviews 8(2):200-239; Doranz, et al., (1996) "A dual-tropic primary HIV-1 isolate that uses fusin and the \( \betachemokine receptors CKR-5, CKR-3, and CKR-2b as fusin cofactors" Cell 85:1149-1158;

EXAMINER Bayeau L. DATE CONSIDERED 09/05/1004

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Sheet 2 of 6 Form PTO-1449 Atty. Docket No. Serial No. U.S. Department of Commerce 51320-AB/JPW/SHS 09/852,238 Patent and Trademark Office Applicants Graham P. Allaway et al. **FORMATION DISCLOSURE CITATION** (Use several sheets if necessary) Filing Date Group May 9, 2001 U.S. PATENT DOCUMENTS Example 1206 **Document Number** Date Class Name Subclass Filing Date Initial if Appropriate FOREIGN PATENT DOCUMENTS **Document Number** Date Country Class Subclass Translation Yes No OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) Dragic, T. et al., (1996) "HIV-1 entry into CD4+ cells is mediated by the chemokine receptor BW CC-CKR-5" Nature 381:667-673; Gong, Jiang-Hong, et al., (1995) "Antagonists Of Monocyte Chemoattractant Protein 1 BUCC Identified By Modification Of Functionally Critical NH2-terminal Residues" J. Exp. Med. 181:631-640; Gong, Jiang-Hong, et al., (1996) "RANTES and MCP-3 Antagonists Bind Multiple BLOG Chemokine Receptors" The Journal of Biological Chemistry 371:10521-10527; Hattori, T., et al., (1989) "Involvement of tryptase-related cellular protease(s) in human immunodeficiency virus type 1 infection" FEB 248:48-52; Jones, Simon, A., et al., (1997) "Chemokine Antagonists That Discriminate between Interleukin-8 Receptors" The Journal of Biological Chemistry 272:16166-16169; BU( Klotman, et al., (1995) "Transgenic models of HIV-1" AIDS 9(4)313-324; Litwin, et al., (1996) "Human immunodeficiency virus type 1 membrane fusin mediated by a BUC laboratory-adapted strain and a primary isolate analyzed by resonance energy transfer" Journal of Virology 70(9):6437-6441; McKnight, Aine, et al., (1997) "Inhibition of Human Immunodeficiency Virus Fusion by a BUC Monoclonal Antibody to a Coreceptor (CXCR4) Is both Cell Type and Virus Strain Dependent" Journal of Virology 71(2): 1692-1696; Moser, Bernhard, et al., (1993) "Interleukin-8 Antagonists Generated by N-terminal All Modification" The Journal of Biological Chemistry 268:7125-7128; DATE CONSIDERED 09/05 /2011 EXAMINER Boiegion L \*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this form with

next communication to applicant.

Sheet 3 of 6

| Form PTC    | )-144   | 9        |       | <del></del> |                 |       | -                           | at of Commerce<br>demark Office                     | Atty. Doc<br>51320-A                             |                            |           | Serial No.                            |  |  |
|-------------|---|----------|-------|-------------|-----------------|-------|-----------------------------|---|--|----------------------------|-----------|---------------------------------------|--|--|
|             | NTCO  | DM.      | A TOT | ·           |                 |       |                             |   | Applicant<br>Graham                              | s<br>P. Allaway et a       | <br>il.   |                                       |  |  |
| OPE         | ce d  |          |       |             |                 |       | s if necess                 | CITATION<br>ary)                                    | Filing Dat May 9,                                | te                         | Group     |                                       |  |  |
| JAN 2 8 20  | OZ Ž  |          |       |             |                 |       | U.S. PA                     | TENT DOCUME   | NTS  |                            |           |                                       |  |  |
| Examiner    |   | Docu     | umen  | nt N        | Num             | ber   | Date                        | Name  | Class  | Subclass                   | Filing D  |                                       |  |  |
| 4 6 18 7    |   |          |       |             |                 |       |                             |   |  |                            |           | · · · · · · · · · · · · · · · · · · · |  |  |
|             |   |          | _     |             |                 |       |                             |   |  |                            | ļ         |                                       |  |  |
|             | $\perp$   |          | _     |             | _               |       |                             |   |  |                            |           |                                       |  |  |
|             |   |          |       |             |                 |       |                             |   |  |                            | <u> </u>  |                                       |  |  |
|             | ·· r  |          |       |             |                 |       | OREIGN                      | PATENT DOCUM  |  | T                          | 1         |                                       |  |  |
|             |   | ocui     | men   | ıt I        | Nun             | nber  | Date                        | Country   | Class  | Subclass                   |           | nslation                              |  |  |
|             |   | П        | Т     |             | 1               | r     |                             |   |  | Yes                        | No        |                                       |  |  |
| <del></del> | -   |          |       |             |                 |       |                             |   |  |                            |           |                                       |  |  |
|             | +   | ╁┼       |       | $\dashv$    | $\dashv$        |       |                             |   |  |                            |           |                                       |  |  |
|             | +   | $\vdash$ |       | -           |                 |       | <u></u>                     |   | <del>                                     </del> |                            | 1         |                                       |  |  |
|             |   |          | THE   | <u> </u>    | DO.             | CUME  | ENTS (Includ                | l<br>ding Author, Title, Da                         | te. Pertinen                                     | t Pages, Etc.)             |           |                                       |  |  |
| 1360°       | Ol  |          |       |             |                 |       |                             | ne CXC chemokine                                    |  |                            | LESTR     | fusion                                |  |  |
| 1500        |   |          |       |             |                 |       |                             | ine-adapted HIV-1'                                  |  |                            |           | . <del></del>                         |  |  |
| BRC         |   | -        |       |             |                 |       | , (1996) "N<br>59:18-23;    | lew members of the                                  | chemokine  | receptor ger               | e family  | y" Journal                            |  |  |
| BOL         |   |          |       |             |                 |       |                             | "Potent Inhibition of<br>Antagonist" <i>Science</i> |  |                            | lacropha  | ages and                              |  |  |
| BUC         |   |          |       |             | -               | -     | CD4 change<br>596-3604;     | es conformation upo                                 | on ligand bi                                     | nding" <i>The J</i>        | ournal c  | of                                    |  |  |
| BUC         |   |          |       |             |                 | -     |                             | 'CD4-dependent, ar "Nature 384:184-1                | •  | sitive interact            | tions be  | tween                                 |  |  |
| BUC         |   |          |       |             | -               |       | et al., (199<br>Biology 59: | 6) "Selectivity and 53-60;                          | antagonism                                       | of chemokin                | e recept  | tors"                                 |  |  |
| BU!         |   |          |       |             |                 | -     | •                           | duced interaction of Nature 384:179-183             | -  | IIV-1 gp120 g              | glycopro  | oteins with                           |  |  |
| 200         | w   | u, Li    | jun,  | et          | al.,            | (199  | 7) "CCR5 I                  | Levels and Expressi<br>ro" J. Exp. Med. 18          | on Pattern                                       |                            | h Infecta | ability by                            |  |  |
| BOCI        | Zhang, Y,J., et al., (1994) "Structure/Activity Analysis of Human Monocyte Chemoattractant Protein-1 (MCP-1) by Mutagenesis," <i>The Journal of Biological Chemistry</i> 269:15918-15924; |          |       |             |                 |       |                             |   |  |                            |           |                                       |  |  |
| EXAMINER    |   | Soc,ê    |       |             | $\mathcal{T}^-$ |       |                             | SIDERED 09/05/                                      |  |                            |           |                                       |  |  |
|             |   | jh ci    | tati  | ion         | if              | not i | sidered, wh<br>in conforma  | ether or not citat<br>nce and not consid            | ion is in c                                      | conformance wade copy of t | ith MPE   | P 609:<br>m with                      |  |  |

Sheet 4 of 6

|                                       |                 |                      |              |                |              |             |            |                          |   |  |                                |                            | <del>-</del> |  |
|---------------------------------------|-----------------|----------------------|--------------|----------------|--------------|-------------|------------|--------------------------|---|--|--------------------------------|----------------------------|--------------|--|
| Form PTO                              |                 |                      |              |                |              |             |            |                          | nt of Commerce<br>demark Office                   | Atty. Doc<br>51320-A                         | ket No.<br>B/JPW/SHS           | Serial No.<br>5 09/852,238 |              |  |
|                                       | NFO             | RM                   | [A]          | ΓΙΟ            | N I          | DIS         | SCI        | OSURE (                  | CITATION  | Applicant<br>Graham                          | s<br>P. Allaway et a           | l                          |              |  |
| WAE.                                  | (G)             |                      |              |                |              |             |            | s if necess              |   | Filing Dad May 9,                            |                                | Group                      |              |  |
| JAN 28 20                             | IIII E          |                      |              |                |              |             |            | U.S. PA                  | TENT DOCUMEN                                      | TS   |                                |                            |              |  |
| Examiner<br>Intelled & T.             | DE              | Doc                  | um           | ent l          | Nun          | nber        |            | Date                     | Name  | Class  | Subclass                       | Filing Date if Appropriate |              |  |
|                                       |                 |                      |              |                |              |             |            |                          |   |  |                                |                            |              |  |
|                                       |                 |                      |              |                |              |             |            |                          |   |  |                                |                            |              |  |
|                                       |                 | П                    |              |                |              |             |            |                          |   |  |                                |                            |              |  |
|                                       |                 |                      |              |                |              |             |            |                          |   |  |                                |                            |              |  |
|                                       |                 |                      |              |                |              |             | F          | OREIGN                   | PATENT DOCUM                                      | ENTS   |                                |                            |              |  |
|                                       | D               | ocu                  | ıme          | ent l          | Nu           | mb          | er         | Date                     | Country   | Class  | Subclass                       | Translation                |              |  |
|                                       |                 |                      |              |                |              |             |            |                          | <u>.</u>  |  |                                | Yes                        | No           |  |
|                                       |                 |                      |              |                |              |             |            |                          |   |  |                                |                            |              |  |
|                                       |                 |                      |              |                |              |             |            |                          |   |  |                                |                            |              |  |
|                                       |                 |                      |              |                |              |             |            |                          |   |  |                                |                            |              |  |
|                                       |                 |                      |              |                |              |             |            |                          |   |  |                                |                            |              |  |
|                                       |                 |                      | OTH          | IER            | DC           | CU          | МЕ         | NTS (Includ              | ding Author, Title, Dat                           | e, Pertinen                                  | t Pages, Etc.)                 |                            |              |  |
| BUCL                                  | Þο              | mai                  | ins          | for :          | HI           | V-1         | gp         |                          | Chemokine Receptoring and a Single Domi           |  |                                |                            | le           |  |
| B00'                                  | gp              | 120                  | Bir          |                | ng,          | and         | CC         |                          | nhibition of Human I<br>ine Activity by Mono      |  | •                              |                            |              |  |
| BOC                                   | Mo<br>Mo        | osie:                | r, D         | ).E.,<br>for i | , 19<br>in v | 90,<br>⁄ivo | Im<br>St   |                          | cient Mice Xenograft<br>uman Immunobiolog<br>191; |  |                                |                            |              |  |
| 000                                   |                 | _                    |              |                |              |             |            |                          | izing Antibodies hav                              |  |                                | : Contro                   | ol of        |  |
| BOL                                   | pro             | olon                 | ged          | l AI           | DS           | -fre        | ee s       |                          | erozygosity for a dele<br>d slower CD4 T=cell     |  |                                |                            |              |  |
| BOC                                   |                 |                      |              |                |              | •           |            |                          | ed Frequency of CCletion, <u>AIDS</u> 11:1833-    |  | eterozygotes                   | among l                    | ong-term     |  |
|                                       | Stio            | /                    |              |                | ,            |             |            | DATE CONS                | 07/03   | <u>         /                           </u> |                                |                            |              |  |
| *EXAMINER: Draw line the mext communi | Initi<br>hrough | al i<br>h ci<br>on t | if d<br>itat | cita<br>tion   | itio<br>i if | n c<br>no   | ons<br>t i | idered, wh<br>n conforma | ether or not citation noe and not consider        | on is in c<br>red. Inclu                     | onformance wi<br>de copy of th | th MPEP                    | 609:<br>with |  |

Sheet 5 of 6 Serial No. Atty. Docket No. U.S. Department of Commerce Form PTO-1449 51320-AB/JPW/SHS 09/852,238 Patent and Trademark Office Applicants Graham P. Allaway et al. RMATION DISCLOSURE CITATION Group Use several sheets if necessary) Filing Date JAN 28 2002 May 9, 2001 U.S. PATENT DOCUMENTS Filing Date Date Class Subclass **Document Number** Name Examiner if Appropriate Initial FOREIGN PATENT DOCUMENTS Translation Date Country Class Subclass **Document Number** Yes No OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.) Cammack, N., 1999, Human Immunodeficiency virus type 1 entry and chemokine receptors: a BC0 new therapeutic target, Antiviral Chemistry and Chemotherapy, 10:53-62; Alkhatib et al., (1997), HIV-1 Coreceptor Activity of CCR5 And Its Inhibition By BU Chemokines: Independence from G Protein Signaling And Importance of Coreceptor down modulation, Virology 234:340-348; Berger et al., (1999), Chemokine Receptors as HIV-1 coreceptors: Roles In Viral Entry, BC Tropism, and Disease, Ann. Rev. Immunol. 17:657-700; DeClerq, E., et al., (1992), Potent and Selective Inhibition of Human Immunodeficiency Virus 130 (HIV)-1 and HIV-2 Replication By a Class of Bicyclams Interacting With A Virus Uncoating Event, Proc.Natl.Acad.Sci. 89:5286-5290; Doranz et al., (1997), A Small Molecule Inhibitor Directed Against the Chemokine Receptor BC CXCR4 Prevents Its Use As An HIV-1 Coreceptor, J. Exp. Med. 186 (8):1395-1400; Levy, (1996), Controlling HIV Pathogenesis: The Role of the Noncytotoxic Anti-HIV Response Of CD8+ T Cells. Immunology Today 17:217-224; Oellerich, M., (1984), Enzyme-Immunoassay: A Review, J. Clin. Chem. Clin. Biochem. 130 22:(12):895-904;

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

**EXAMINER** 

Buchen

DATE CONSIDERED 09/04/2004

\*EXAMINER: Initian if citation considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

09/03/204

Daar, et al., Proc. Natl. Acad. Sci. U.S.A. 87:6574-6478, 1990.

DATE CONSIDERED

130

**EXAMINER** 

\_

|         |        | • | 6.           |      |
|---------|--------|---|--------------|------|
| Form PT | 2-1449 | 3 | <b>200</b> 1 | 10 m |

Examiner

US

US

Initial BUC

# U.S. Department of Commerce

Patent and Trademark Office

INFORMATION DISCLOSURE CITATION (Use several sheets if necessary)

Date

8/5/94

4/2/96

6/4/91

6/30/92

Date

**Document Number** 

Document Number

0 3

U.S. PATENT DOCUMENTS

H. Li et al. Murrer et al.

Maddon et al.

Name

**Country** 

|          | OTHER DOCUMENTS (Including Author, Title, Pate, Pertinent Pages, Etc.)   |  |  |  |  |  |  |  |  |  |  |  |  |  |
|----------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| βio ( )  | Alkhatib, Ghalb, et al., (1996) "CC CKR5; A RANTES, MIP-1α, MIP-1β Receptor as a Fusion Cofactor for Macrophage-Tropic HIV-1" Science 272:1955-1958;   |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BRL      | Arenzana-Selsdedos, Fernando, et al., (1996) "HIV blocked by chemokine antagonist" Nature 383:400;   |  |  |  |  |  |  |  |  |  |  |  |  |  |
|          | Bleul, Conrad, C., et al., (1996) "The lymphocyte chemoattractant SDF-1 is a ligand for LESTR/fusion and blocks HIV-1 entry" <i>Nature</i> 382:829-832;  Brenner, T.J., et al. (1991) "Relation between HIV-1 syncytium inhibition antibodies and clinical outcome in children" <i>The Lancet</i> 337:1001-1005;   |  |  |  |  |  |  |  |  |  |  |  |  |  |
|          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|          | Choe, Hyeryun, et al., (1996) "The β-Chemokine Receptors CCR3 and CCR5 Facilitate Infection by Primary HIV-1 Isolates" Cell 85:1135-1148;  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|          | Cocchi, Florenza, et al., (1995) "Identification Of RANTES, MIP-1α, and MIP-1β as the Major HIV-Suppressive Factors Produced by CD8 <sup>+</sup> T Cells" Science 270: 1811-1815;  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|          | De Clercq, et al.,(1994) "Highly potent and selective inhibition of human immunodeficiency virus by the bicyclam derivative JM3100" Antimicrobial Agents and Chemotherapy 38(4):668-674;   |  |  |  |  |  |  |  |  |  |  |  |  |  |
|          | De Clercq, E., (1995) "Antiviral therapy for human immunodeficiency virus infections" Clinical Microbiology Reviews 8(2):200-239;  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| V        | Doranz, et al., (1996) "A dual-tropic primary HIV-1 isolate that uses fusin and the β-chemokine receptors CKR-5, CKR-3, and CKR-2b as fusin cofactors" Cell 85:1149-1158;  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| EXAMINER | No. of the second secon |  |  |  |  |  |  |  |  |  |  |  |  |  |

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

|                     |  | 0            | P    | È        | _     |            |      |             |   |                      | S                    | heet 2 of          | 3        |
|---------------------|--|--------------|------|----------|-------|------------|------|-------------|---|----------------------|----------------------|--------------------|----------|
| Form PT             | - 1  |              | 1 3  | 200      | 45    | <b>L</b> 1 |      | -           | nt of Commerce<br>lemark Office                               | Atty. Doc<br>51320-A | ket No.<br>A/JPW/SHS | Serial N<br>09/852 |          |
|                     | Ħ  |              |      |          | ع ِ   | DIS        | CL   | OSURE (     | CITATION  | Applicant<br>Graham  | s<br>P. Allaway et a | l.                 |          |
|                     | <del>V</del>   |              |      |          |       |            |      | s if necess |   | Filing Da<br>May 9,  |                      | Group              |          |
|                     | -  |              |      |          |       |            |      | U.S. PA     | TENT DOCUME   | NTS                  |                      |                    |          |
| Examiner<br>Initial |  | Doc          | ume  | ent l    | Nun   | ber        |      | Date        | Name  | Class                | Subclass             | Filing D           |          |
|                     |  |              |      |          |       |            |      |             |   |                      |                      | <u> </u>           |          |
| •                   |  |              |      |          |       |            |      |             |   |                      |                      | ļ                  |          |
|                     |  |              |      |          |       |            |      |             |   |                      |                      | ļ                  |          |
|                     |  |              |      | <u> </u> |       |            |      | <u>.</u>    |   |                      | <u></u>              |                    |          |
| ļ                   |  |              |      |          |       |            | F    | OREIGN      | PATENT DOCUM  | 1ENTS                |                      | · · · · · ·        |          |
|                     | D  | ocu          | ıme  | nt       | Nu    | mb         | er   | Date        | Country   | Class                | Subclass             | Tra                | nslation |
|                     |  | <del>,</del> | r    |          | _     |            |      |             |   |                      |                      | Yes                | No       |
|                     |  | <u> </u>     |      |          |       |            |      |             |   |                      |                      | ļ                  |          |
|                     |  |              |      |          |       |            |      |             |   |                      |                      | ļ                  |          |
|                     |  |              |      |          |       |            |      |             |   |                      |                      | -                  |          |
|                     |  | <u></u>      |      |          |       |            |      |             | <u> </u>  |                      | <u> </u>             | 1                  | ·        |
| <del>- , -</del>    |  |              |      |          |       |            |      |             | ding Author, Title, Da  |                      |                      |                    |          |
| Bar                 | Dragic, T. et al., (1996) "HIV-1 entry into CD4+ cells is mediated by the chemokine receled CC-CKR-5" <i>Nature</i> 381:667-673; |              |      |          |       |            |      |             |   |                      |                      |                    |          |
| .                   | Ide  | nti          |      | Ву       | W     |            |      |             | "Antagonists Of Monctionally Critical I                       |                      |                      |                    |          |
|                     |  |              |      |          |       |            |      |             | "RANTES and MC<br>nal of Biological Ch                        |                      |                      |                    |          |
|                     | Ha   | ttor         | i, T | `., e    | t al. | ., (1      | 98   | 9) "Involve | ement of tryptase-re<br>afection" FEB 248:4                   | lated cellul         |                      |                    | an       |
|                     |  |              |      |          |       |            |      |             | Chemokine Antagor   |                      |                      |                    |          |
|                     | KI   | otm          | an,  | et a     | al.,  | (19        | 95)  | "Transgen   | ic models of HIV-1  | " <i>AIDS</i> 9(4    | 1)313-324;           |                    |          |
|                     | lab  | ога          | tory | /-ac     | dapt  | ted :      | stra |             | munodeficiency viru<br>rimary isolate analy                   | V -                  |                      |                    | •        |
|                     | Mo   | ono          | clon | ial .    | Ant   | ibo        | dy   | to a Corece | nhibition of Human<br>eptor (CXCR4) Is b<br>71(2): 1692-1696; |                      |                      |                    | n by a   |
| 4                   | 1  |              | •    |          |       | -          | ou   | rnal of Bio | nterleukin-8 Antago<br>logical Chemistry 2                    | <u>68:7125-7</u>     | •                    | rminal             |          |
| EXAMINE             | R J  | fly          | γu   | un       | L.    |            |      | DATE CON    | SIDERED / 6 5 /o  | c K                  |                      |                    |          |
|                     | throug   | jh ¢         | tat  | tior     | n if  | no         |      |             | ether or not citat<br>ince and not consid                     |                      |                      |                    |          |

|                     |   |     |     | WB    | 1 3  | •          | ine .      |                          |  |                      | s                    | heet <u>3</u> of           | 3        |
|---------------------|---|-----|-----|-------|------|------------|------------|--------------------------|--|----------------------|----------------------|----------------------------|----------|
| Form PTC            | )-144   | 9   | K.  | Treat | וארו | U.S<br>Pat | s: I<br>en | Department<br>t and Trac | nt of Commerce<br>demark Office<br>CITATION  | Atty. D c<br>51320-A | ket No.<br>A/JPW/SHS | Serial N<br>5 09/852       |          |
| I                   | NFO   | RM  | ΓΑΊ | CIO   | N.   | DIS        | CI         | LOSURE (                 | CITATION                                     | Applicant<br>Graham  | s<br>P. Allaway et a | ıl                         |          |
|                     |   |     |     |       |      |            |            | s if necess              |  | Filing Dat<br>May 9, |                      | Group                      |          |
|                     |   |     | _   |       | •    |            |            | U.S. PA                  | TENT DOCUME                                  | NTS                  |                      |                            |          |
| Examiner<br>Initial |   | Doc | um  | ent : | Nur  | nber       |            | Date                     | Name   | Class                | Subclass             | Filing Date if Appropriate |          |
|                     | _   |     |     | _     | -    |            |            |                          |  | <u> </u>             | -                    | -                          |          |
|                     |   | -   |     |       |      | $\vdash$   |            |                          |  |                      |                      |                            |          |
|                     |   |     |     |       |      |            |            |                          |  |                      |                      |                            |          |
|                     |   |     |     |       |      |            | F          | OREIGN                   | PATENT DOCUM                                 | MENTS                | ·                    |                            |          |
|                     | D   | ocu | ıme | ent   | Nu   | mb         | er         | Date                     | Country                                      | Class                | Subclass             | Trai                       | nslation |
|                     | _   |     |     |       |      |            |            |                          |  | <del> </del>         |                      | Yes                        | No       |
|                     | -   | -   |     |       | _    |            | _          |                          |  |                      | <u> </u>             |                            |          |
|                     | <del> </del>  |     | -   |       | -    | $\vdash$   |            |                          |  |                      |                      | -                          | ····     |
|                     |   |     |     |       |      |            |            |                          |  |                      |                      |                            |          |
|                     |   |     | OTI | IER   | D    | ocu        | MI         | ENTS (Inclu              | ding Author, Title, D                        | ate, Pertinen        | t Pages, Etc.)       |                            |          |
| BU!                 |   |     |     |       |      |            |            |                          | he CXC chemokine line-adapted HIV-1          |                      |                      | LESTR/                     | fusion   |
|                     | of  | Leu | iko | cyte  | B    | iolo       | gy         | 59:18-23;                | New members of the                           |                      |                      |                            | i        |
|                     |   |     |     |       |      |            |            |                          | "Potent Inhibition of<br>Antagonist" Science |                      |                      | [acropha                   | iges and |
|                     | Szabo, et al., (1992) "CD4 changes conformation upon ligand binding" The Journal of |     |     |       |      |            |            |                          |  |                      |                      |                            |          |

Trkola, Alexandra, et al., (1996) "CD4-dependent, antibody-sensitive interactions between HIV-1 and its co-receptor CCR-5" Nature 384:184-187;

Wells, Timothy, N.C., et al., (1996) "Selectivity and antagonism of chemokine receptors" Journal of Leukocyte Biology 59:53-60;

Wu, Lijun, et al., (1996) "CD4-induced interaction of primary HIV-1 gp120 glycoproteins with the chemokine receptor CCR-5," Nature 384:179-183;

Wu, Lijun, et al., (1997) "CCR5 Levels and Expression Pattern Correlate with Infectability by Macrophage-tropic HIV-1, In Vitro" J. Exp. Med. 185:1681-1691;

Zhang, Y,J., et al., (1994) "Structure/Activity Analysis of Human Monocyte Chemoattractant Protein-1 (MCP-1) by Mutagenesis," *The Journal of Biological Chemistry* 269:15918-15924;

EXAMINER Science Date Considered

09/05/2004

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.